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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,823	04/30/2001	Ted E. Dunning	22227-04647	5884

758 7590 08/18/2004

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EXAMINER

RETTA, YEHDEGA

ART UNIT PAPER NUMBER

3622

DATE MAILED: 08/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,823

Applicant(s)

DUNNING ET AL.

Examiner

Yehdega Retta

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WY

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-97 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-97 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/4/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This office action is in response to amendment filed on May 4, 2004. Amendment to the claims has overcome the rejection of 35 USC § 101 and 35 USC § 112.

Response to Arguments

Applicant's arguments filed May 4, 2004 have been fully considered but they are not persuasive.

Applicant in his argument states that Hosken employs user provided implicit and explicit rating data for content items, and thus requires that users actively engage in providing feedback as to whether they like or dislike content items and states that there is no hint or suggestion in Hosken of storing user logs responsive to a degree of occurrence of a query item identifier and determining a result item responsive to a degree of occurrence in a scored user log.

Examiner agrees that Hosken teaches collecting implicit as well as explicit information of users. Hosken also teaches sparse matrix of interrelated characterizing attributes derived from explicit, implicit and other direct rating information source 100 (explicit rating information source), 102 (implicit rating information sources) and 104 (other rating information sources). In response to user request action (identifying a media content item or other requests) the referral system produces a recommendation set. ... In similar manner, an empirical normalization is applied by the final weighing filter relative to the weightings received from the collected group behaviors and the expert weighting filter. Thus normalized, traversals that complete may then be ranked and sorted based on whatever criteria selected by user.... Hosken further states user

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would be able to provide feedback to the system regarding the recommendations indicating the degree to which the user liked the recommended item (see col. 11 lines 20 col. 12 line 9).

Applicant claims generating a log for each user the log containing identifiers for the user's item selection. Applicant does not clearly claim that the selection of item was only from implicit behavior. Applicants specification discloses recommendation made based on implicit and explicit data. Even if that was the case, Hosken discloses that the user may explicitly enter music items and ratings or the system may derive implicit ratings of music items based on system-based observations of user actions and the system making recommendation based on the input (see col. 14 lines 13-20). Hosken filtering and weighting method provides scoring and determining a result, based on the number of times an item appears, i.e., an item with higher weight factor (see also fig. 7A –7C).

Applicant also argues that neither Hosken nor Lazarus, taken alone or in any combination, describe the specific technique recites herein for determining a result item responsive to a determined significance of a degree of occurrence in a scored user log. Examiner disagrees. Lazarus teaches use of predictive modeling of consumer behavior based on co-occurrence of merchant segments, derived from customer transaction data (equivalent to applicants user log) based on co-occurrences of merchants in sequences of transactions. A merchants vector representing specific merchants are clustered to form merchants segments in a vector space as function of the degree to which merchants co-occur more or less frequently than expected. The clustering of merchants in merchant segments allows analysis of transaction of consumers in each specific segment, both historically and in the predicted period to identify

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consumers of interest (determining at least one result item). Therefore, both Hosken and Lazarus teach the claimed invention.

Claim Rejections - 35 USC § 102

Claims 1, 4-27, 32, 33, 39, 42-59, 62-85, 91 and 92 are rejected under 35 U.S.C. 102(e) as being anticipated by Hosken U.S. Patent No. 6,438,579.

Regarding claim 1, Hosken teaches accepting item selection, generating log containing identifiers for user item selection; accepting query; scoring user logs, responsive to a degree of occurrence to the query item; determining at least one result item in a subset of scored user logs (see abstract, col. 2 line 52 to col. 3 line 34, col. 5 line 8 to col. 6 line 38 and col. 9 lines 23-65)

Regarding claims 4-11, Hosken teaches video track or music track, generating track list containing an identifier for each determined result. Hosken teaches recommending music and video and other media content items based on similarity in profile between the user and other users (see abstract and col. 11 line 1 to col. 13 line 30 and col. 14 line 40 to col. 16 line 21).

Regarding claims 12 and 13, Hosken teaches accepting selection; input specifying an item purchase by user, provided via web page (see col. 3 lines 17-34, col. 4 lines 11-55, col. 5 lines 20-62).

Regarding claim 14, Hosken teaches defining a subset of the scored user logs (see col. 15 line 10 to col. 16 line 21).

Regarding claims 15-27, Hosken teaches monitoring user behavior and adjusting the user log ... outputting advertisement ... (see col. 5 line 20 to col. 6 line 67 and col. 8 line 38 to col. 11 line 19).

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Regarding claims 32 and 33, Hosken teaches deleting item selected by user from the determining at least one result, ranking the result responsive to the degree of significance (see col. 16 lines 24-53).

Claims 39 and 59 are rejected as stated above in claim 1.

Claims 42-45 and 62-69 are rejected as stated above in claims 4-11.

Claims 70 and 71 are rejected as stated above in claims 12 and 13.

Claim 72 is rejected as stated above in claim 14.

Claims 46-58 and 73-85 are rejected as stated above in claims 15-27.

Claims 91 and 92 are rejected as stated above in claims 32 and 33.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2,3, 28-31, 34-38, 40, 41, 60, 61, 86-90, 93-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosken U.s. Patent No. 6,438,579 further in view of Lazarus U.S. Patent No. 6,430,539.

Regarding claims 2, 3, 40, 41, 60, 61 and 86 Hosken does not explicitly teach significance of occurrence being determined by a log of likelihood ratio analysis or a substantial equivalent of a log of likelihood ratio analysis, it is taught by Lazarus (see col. 22 line 19 to col. 25 line 53). Lazarus teaches use a log of likelihood ratio or an equivalent analysis to determine significance

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of occurrence (see abstract, col. 4 lines 24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38).

Regarding claims 28-31, 34-38, 87-90, 93-97, Hosken teaches determining a total number of users, determining a subset of user, determining the items selected or not selected by the subsets and use of correlation algorithm to determine the correlation between the cluster and the user (see col. 15 line 10 to col. 16 line 21). However Hosken failed to explicitly teach the correlation algorithm as a log likelihood ratio, it is disclosed in Lazarus (see abstract, col. 4 lines 24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yehdega Retta whose telephone number is (703) 305-0436. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Stamber can be reached on (703) 305-8469. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "Yehdega Retta". The signature is fluid and cursive, with the first name "Yehdega" and the last name "Retta" clearly distinguishable.

Yehdega Retta
Primary Examiner
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YR